

# Gaoming Wang

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## RESEARCH INTERESTS

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Riemannian Geometry, Geometric Analysis, especially minimal surfaces and mean curvature flows.

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## EMPLOYMENT

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Visiting Assistant Professor, Cornell University

Fall 2022-now

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## EDUCATION

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**Ph.D. (Mathematics, 2022)**

The Chinese University of Hong Kong

*Thesis: General theory of PDEs on triple junction surfaces*

*Supervisor: Prof. Martin Li*

**B.Sc. (Pure and Applied Mathematics, 2017)**

Tsinghua University

*Thesis: The estimation of curvature equations for hypersurfaces*

*Supervisor: Prof. Daguang Chen*

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## PUBLICATIONS AND PREPRINTS

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1. *Generalized Bernstein Theorem for Stable Minimal Plateau Surfaces*, [arXiv: 2210.11500](https://arxiv.org/abs/2210.11500), 2022.
2. *Dihedral rigidity in hyperbolic 3-space* (with X. Chai), submitted, [arXiv: 2208.03859](https://arxiv.org/abs/2208.03859), 2022.
3. *General Theory of Partial Differential Equations on Triple Junction Surfaces*, [PhD thesis](#).
4. *Curvature estimates for stable minimal surfaces with a common free boundary*, **Calc. Var.** 61, 138 (2022). <https://doi.org/10.1007/s00526-022-02226-3>
5. *Uniformization of surfaces with boundary and the application to the triple junction surfaces with negative Euler characteristic*, submitted, [arXiv:2110.12656](https://arxiv.org/abs/2110.12656), 2021.
6. *Index of Embedded Networks in the Sphere*, submitted, [arXiv:2110.12653](https://arxiv.org/abs/2110.12653), 2021.

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## INVITED TALKS

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**Geometric Analysis Seminar** (Miami University)

Oct 2022

**Cornell Analysis and Geometric Analysis Seminar** (Cornell University)

Title: Second Order Elliptic Operators on Triple Junction Surfaces

Oct 2022

**The 3<sup>rd</sup> Geometric Analysis Festival** (organized by Prof. Hojoo Lee, Jeonbuk National University)

Title: Curvature Estimates for Stable Minimal Triple Junction Surfaces

Jul 2021

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## HONORS AND AWARDS

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- Best Teaching Assistant Award, Department of Mathematics, CUHK Spring 2020
- Madam Wong Siew Khoon Scholarships, CUHK Fall 2018
- Third Prize of S.T. YAU College Student Mathematics Contests in Geometry, top 10 out of undergraduate students in China Summer 2016
- First Prize of Chinese College Students Math Competition in Beijing, top 20 out of undergraduate students in Beijing Fall 2014

## SERVICES

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Referee for *Proceedings of the American Mathematical Society*.

## RESEARCH ACTIVITIES

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- The Northeast Workshop in Geometric Analysis** (University of Connecticut) Nov 2022
- Conference on Differential Geometry** (Lehigh University) Oct 2022
- The 27<sup>th</sup> Southern California Geometric Analysis Seminar and winter school** (UCI) Feb 2020
- Graduate Student Seminar on Geometric Analysis** (CUHK) 2019-2022
- Talks on Maximum Principle, Curvature Estimate for Stable Minimal Surfaces Spring 2022
  - Talks on Ricci Flow Spring 2021
  - Talks on Positive Scalar Curvature Fall 2020
  - Talks on Level Set Flow Fall 2019
- Research activities related to Geometry and Partial Differential Equations** (CUHK)
- Presentation on Plateau Problem (Douglas, Rado's Theorem) Spring 2019
  - A short survey on the topics related to Polynomial Methods Fall 2018
- Presentation about Applied Mathematics** (CUHK) Fall 2018
- An Application of Toeplitz Solvers to Nonlinear Partial Differential Equations
- Utrecht Summer School of Geometry** (Utrecht University, Netherlands) Summer 2016

## TEACHING EXPERIENCE

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### Cornell University

- MATH 1110: Calculus I Fall 2022

### The Chinese University of Hong Kong (as teaching assistants)

- MATH 2050: Mathematical Analysis I Spring 2022
- MATH 4030: Differential Geometry Fall 2021
- MATH 5061: Riemannian Geometry I Spring 2021
- MATH 2050: Mathematical Analysis I Spring 2021
- MATH 2050: Mathematical Analysis I Spring 2020
- MATH 2020: Advanced Calculus II Fall 2019
- MATH 1030: Linear Algebra I Fall 2018-Spring 2019